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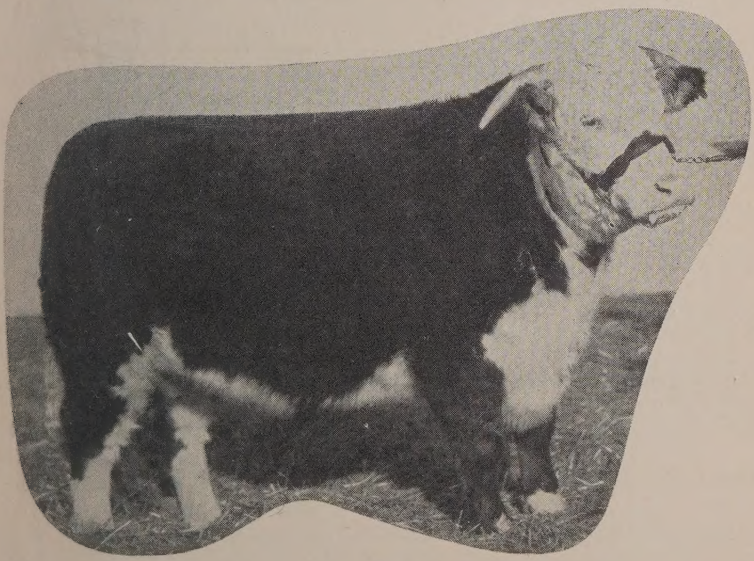
LET'S BUTCHER A BEEF

W. P. LEHRER, JR.



COOPERATIVE EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS OF THE STATE OF IDAHO, UNIVERSITY OF IDAHO EXTENSION DIVISION AND UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING.

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LET'S BUTCHER A BEEF

W. P. LEHRER, JR.*

HIGH quality beef is produced only from high quality animals. Steers and heifers make the best beef and are preferred for farm slaughter when 12 to 24 months of age. Animals of this age produce cuts which are small, tender, and most desirable for the average family. Select a beef animal which is fat, appears healthy, and is gaining in weight.

TOOLS And EQUIPMENT

Use only tools and equipment that are sturdy and safe. For proper slaughtering of cattle a means of hoisting the carcass must be provided. This can either be a tripod made from sturdy timbers, a tree, or rafters in a shed or barn. A block and tackle or chain hoist is needed for hoisting the carcass.

You can make a good skinning rack to hold the animal on its back from 2 by 4's placed 12 inches apart and fastened by nailing crosspieces on the ends. If lumber is not available to construct a skinning rack, two large rocks, sacks partially filled with sand or dirt, or two posts can be used to support the carcass on its back when skinning. A wagon doubletree will serve as a beef tree. If the clevises at each end are placed between the tendons at the hock and the hoisting block is attached at the center clevis the carcass can be hoisted safely and easily.

Other tools you will need are: a rope to restrain the animal, a sharp skinning knife with a 6-inch blade, beef cleaver, meat saw, steel, oilstone, stunning hammer or rifle, several clean pails or tubs, clean cloths, and running water.

BEFORE KILLING YOUR BEEF

The beef you intend to slaughter will bleed more freely and the viscera will be easier to remove if the animal has been off feed for 24 hours before slaughter. Don't forget to allow it free access to water.

Confine the animal in close quarters at least 24 hours before killing. Avoid over heating, exciting, or over exercising the animal.

SLAUGHTERING

If the beef animal you intend to slaughter is quiet enough to rope, it should be snubbed to a post or tree with the head drawn closely to the ground. In this position it is an easy operation for you to stun the animal with a blow of an axe or hammer or by shooting with a rifle. The blow is struck in the center of the forehead to render the animal unconscious.

After the animal is stunned, the sticker makes an incision from the point of the breast bone to the base of the jaw. **(Figure 1).** The next cut is through the neck muscles and deep into the breast region. This

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Figure 1.—*Sticking.* Stretch the animal's neck by placing one foot under its jaw and the other against its knees and shoving them apart. Make the breast cut by holding the knife at a 45-degree angle with the backbone.

will sever the carotid arteries. Hasten bleeding by pressing on the animal's rear flanks and pumping its forelegs.

SKINNING

The hide is a valuable by-product. Make an effort to remove it in the best possible condition.

To avoid cutting yourself and making unnecessary cuts in the hide wait until all of the animal's reflexes have ceased before attempting to skin the carcass.

Heading

Skinning the head is the first operation. Make an incision across the poll, then down the side of the head to the eye and the corner of the mouth. In this way the natural openings are used and the skin may be removed in one piece. Extend the sticking cut forward to the point of the jaw and skin the neck out. Remove the head at the first joint.

To make it easier to remove the tongue and cheek meat, place the head with the face side down. With your axe or cleaver, split the head and remove the brain.

Legging

After removing the head, place the carcass on its back on the skinning rack. Skin the beef as much as possible while it is in this position. **(Figure 2).** Start skinning out the forelegs by making a cut across the dewclaws. This cut will sever the tendons and permit the foot to relax. Make the next incision down the back of the foreshank to the elbow. Skin out the foreshank and unjoint at the break or flat joint of the "knee". **(Figure 3).** Skin the hind legs out in this manner: extend a cut from the dewclaws, over the hock to a point midway between the cod or udder and the bung. Skin the leg out and remove the shank at the lower part of the hock about 1 inch from where it tapers into the cannon bone. The skinner will find it easier to skin out the inside of the round if he will straddle the animal's

Figure 2.—*Skinning.* The guide lines show where to make the different cuts to remove the hide.

leg and pull back on it by holding it with his legs. The leg and inside of the round should be skinned out before the shank is broken.

Figure 3.—Remove the shanks just below the knee and back joints.

Siding:

Removing the hide from the belly and sides of the carcass is called siding. Open the hide from the center of the brisket to the bung. Skin over the brisket, the middle and the cod or udder to the elbow. This will make a cut which will meet the one made when the fore shank was dropped. Continue removing the hide down over the sides making sure not to score the carcass.

OPENING THE BEEF

After you have skinned down over the sides saw through the brisket. Then rip open the middle with your knife. Learn to keep the handle of the knife on the inside. **(Figure 4).** Take care not to puncture the paunch or intestines. Remove the paunch or caul fat. When splitting the pelvic bone avoid cutting the small intestines by pulling them out and letting them hang on the outside of the carcass. Continue the ripping cut through the pelvic bone. Separate this with a knife or saw beginning at the point nearest the bung.

RAISING THE BEEF

Before raising the beef, tie the gullet to prevent spilling the paunch contents. Make slits at the hocks and insert the beef tree or doubletree clevices. Raise the carcass with the block and tackle until the rump is 3 or 4 feet from the floor or ground.

REMOVING THE TAIL

When the carcass is in this raised position, split the tail along the underside, partially skin it out and loosen the skin around the root of the tail. Unjoint the tail and pull out of the skin by grasping the root firmly. Hold the tail with a piece of clean cloth to prevent your hands from slipping.

You can easily loosen the bung (rectum) and genital organs with a knife while the carcass is in this position. Tie off the bung in order to prevent soiling the carcass.

RUMPING AND BACKING

With the carcass still in the half-raised position, skin over the rump and rounds as far down as possible. Avoid cutting off the

Figure 4.—Opening the belly. Take care not to puncture the paunch or intestines.

Figure 5.—Eviscerating. Do not break the gall bladder or puncture the intestines. Note suspended position of carcass.

hide on the upper part of the round on the outside as this should be pulled off. If two persons are doing the slaughtering, one can pull on the hide and the other beat it away from the carcass with the back of a cleaver. This method results in leaving the fell on the carcass and gives a more attractive round. Gradually raise the carcass and extend the hide-removing operation. A knife will aid in removing the hide from the back.

EVISCERATING

If you loosen the viscera as the carcass is raised they will roll out and can be easily deposited in a tub. **(Figure 5).** Take care to loosen the bung from the fat. Leave the kidneys and kidney fat hanging in the carcass. Use a knife to separate the small intestines from the liver. Do not cut or tear the gall bladder when removing the liver. Remove the gall bladder by grasping the bile duct with the index finger and the thumb and carefully pulling it away from the liver. Use your hands to loosen the paunch from the body wall and roll it out of the body cavity. Cut the diaphragm at the junction of the dark and light tissue. Leave the dark tissue or "hanging tender" in the carcass. Remove the heart and lungs and the large red vein along the back bone.

As soon as the viscera are removed work them over immediately. The liver, heart, intestines, stomach and fat have value to the thrifty farm family.

CARE OF THE HIDE

It will pay you to handle beef hides carefully. Cured hides generally bring a higher price than green ones.

Rinse dirty hides with clean water before processing. Place the clean hide hair side down on a clean floor and sprinkle liberally with salt on the flesh side. Keep the hide processing room as cool as possible. Apply course stock salt (not iodized) at the rate of about 1 pound of salt per pound of hide. Allow the hide to cure several days and then fold it to prevent excessive drying. Keep flies away from the hide. In tying hides for shipping fold the skin of the neck, tail and shanks inside. Make a square bundle and tie with rope keeping the hair on the outside. Do not use wire for tying hides.

SPLITTING

Stand to the rear of the carcass and with a meat saw split it down the center following the backbone seam. Use your knife to cut the fat, hanging tendon and to separate the kidneys from the inside of the backbone. In sawing the carcass make sure that you split the superior spinus processes or fins.

CHILLING

After you have split the carcass, wash it thoroughly with a cloth, brush and cold water. Hang the carcass in the chill room for at least 24 hours before cutting. Best chill room temperatures are from 33° to 38° F. Do not allow the carcass to freeze. Allow plenty of room for air circulation.

In order to smooth out the fat and to bleach the carcass, wrap it in muslin cloth which has first been wrung out in hot water, and then place it in the chill room.

Where refrigeration is not available, afternoon slaughtering allows the carcass to chill over night. Use extreme care if butchering in warm weather.

AGING

You can increase the tenderness and flavor of beef by allowing it to age. Hang the carcass in the chill room for 5 to 10 days before cutting. Determine the necessary aging time by the amount of fat or "condition" it carries. The more fat the longer it can be aged. Do not age meat too long.

DRESSING PERCENTAGE

The dressed yield is the percentage relation of the carcass weight to the live weight. Compute the dressing percentage of your beef by dividing the carcass weight by the live weight and multiplying by 100. It is important to know the dressing percentage. It is an important item in the cost of dressed beef.

Dressing percentage is determined by quality, finish, and fill. The dressing percentage of beef animals varies from 40 to 65 per cent. Good quality will increase yield. The fatter the animal, other factors being equal, the higher the yield; the greater the fill, the lower the yield. If your animal has a thin hide, refined head, fine short shanks, the yield will be higher. These parts are removed in dressing.

BEEF CUTTING

There is no one best method of cutting beef. Select the method best suited to you and adapted to your use of the meat. The method discussed here is given only as a suggestion. **(Figure 6).**

Quartering:

The first step in cutting beef is to quarter (divide) the side between the 12th and 13th ribs. This will leave the 13th rib on the hindquarter and divides the side in about as equal weight as possible. The forequarter will usually be slightly heavier.

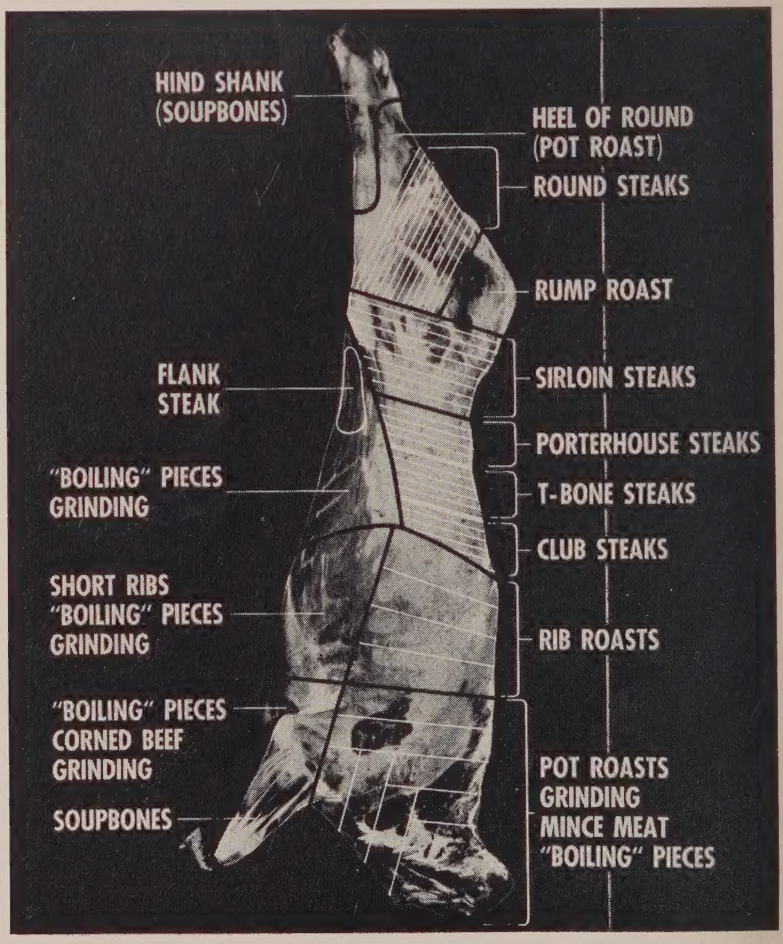

Figure 6.—The wholesale and retail cuts of beef.

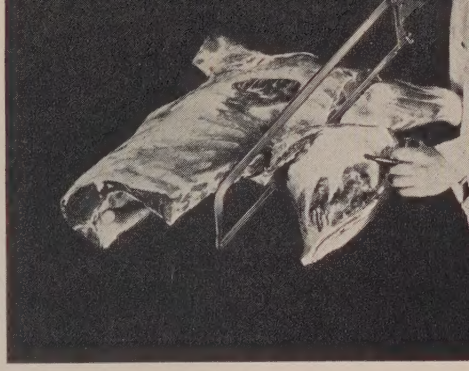

Figure 7.—Separating the rattle from the back.

Cutting the Forequarter:

Place the forequarter on the cutting table with the bone side down. Along the 12th rib of the forequarter, measure 7 to 10 inches from the chine bone (backbone) to the rib end and with your knife make a mark on the front shank just below the elbow joint. Remove the navel end, brisket and fore shank, from the rib and chuck, by cutting in a straight line between these two points. **(Figure 7).**

Now separate the rib from the chuck by cutting between the 5th and 6th or 6th and 7th ribs, counting from the neck end. Cutting between the 6th and 7th ribs rather than the 5th and 6th avoids having a cartilage in the rib piece. **(Figure 8).** The front section is known as the chuck and the rear as the rib. Remove the neck in a line with the cut made on the 5th or 6th rib and close to the arm bone at the shoulder point.

Remove the front shank from the plate by cutting through the tissue seam. Divide the plate between the 5th and 6th ribs..counting from the front. The front portion is known as the brisket and the rear portion as the navel end.

Cutting the Hindquarter:

Place the hindquarter on the cutting block with the bone side up. Remove the flank by making a cut over the face of the inside of the round where the flank attaches and cut toward the 13th rib at a point 8 inches from the back bone. Saw through the rib. **(Figure 9).**

Now remove the kidney knob from the inside of the loin, making sure to leave some fat on the backbone to cover the tenderloin. The kidney knob may be removed before removing the flank.

Separate the loin from the round and rump by cutting 1½ inches from the front of the anterior end of the pelvic bone (aitch bone). **(Figure 10).** If desired the loin can be further divided into the loin end and the short loin by cutting close to and in front of the hip bone (pin bone). **(Figure 11).** However, there is no advantage in making this separation if the entire loin is to be used for steaks.

Remove the rump from the round by cutting parallel and back of the aitch bone. **(Figure 12).**

RETAIL CUTS:

The farmer who is doing his own slaughtering and meat cutting is interested in making meat cuts which his family can easily use. His position is different from that of the meat retailer who is thinking in terms of profit. The meat retailer does not separate the less desirable from the desirable cuts so closely as the farmer doing his own meat cutting. Those farmers planning to place meat in frozen food lockers will save valuable locker space if they bone and trim, when possible, and make cuts the correct size for their family needs. See Idaho Extension Bulletin No. 165. **Freezing Foods For Use in the Home.**

Figure 8.—The back is separated into the rib and chuck.

Figure 9.—Removing the flank from the hindquarters.

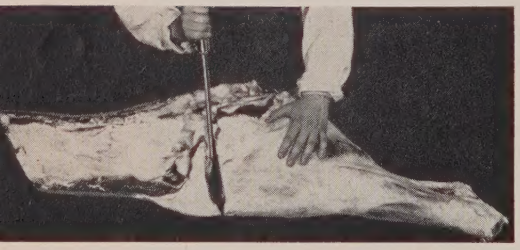

Figure 10.—Separating the loin from the round.

Figure 11.—Dividing the loin into the short loin and the loin end.

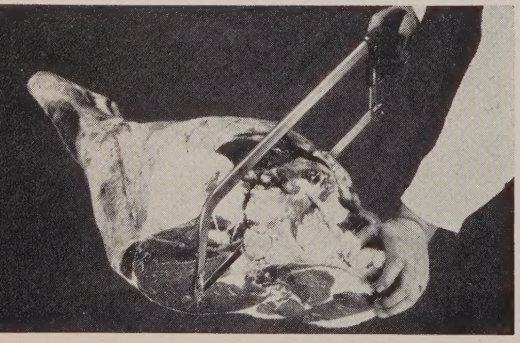

Figure 12.—Removing the rump from the round.

The rib

The rib is meat of high quality and can be used in various ways. Rib roasts are cut; bone in, boned, and rolled or folded. To make for easier handling at the time of cooking and carving the standing rib roast usually has part of the chine bone sawed off and some of the rib ends cut off. Use the rib ends as short ribs for braising.

In making the rolled rib roast, remove all the bones and the heavy neck ligament or back strap. Roll the thin end around the meaty portion and tie with cord or fasten with skewers.

Steaks may also be cut from the rib. They may be either boned or not.

The Chuck:

Cut the chuck into roasts or steaks by first cutting with the rib, and then across the rib. **(Figure 13).** Roasts or steaks cut with the rib, and which include the blade bone, are called chuck or blade roasts or steaks. Those cut across the arm are called arm roasts or steaks.

Brisket and Navel End:

The brisket and navel end are less tender cuts and are usually used for braising, simmering or stewing. Make cuts the correct size to meet your needs.

These cuts may be boned out for corning or grinding.

Fore Shank and Neck

The fore shank is not a tender cut. Bone or cut into several pieces and use for grinding, soup stock, braising or simmering.

Bone out the neck and use for hamburger, stewing or braising.

The Loin (Short and Loin End)

The loin is the most prized section of the beef carcass. Club, T-bone and porterhouse steaks are cut from the short loin and sirloin steak or roasts from the loin end. Club steaks are cut from the front third of the short loin; T-bone steaks from the middle third and porterhouse from the rear third. Sirloin steaks or roasts vary in the type of bone structure they contain. The first cut is referred to as the butt end sirloin, the next, wedge bone sirloin, followed by the round bone sirloin, flat bone sirloin and pin bone sirloin.

The small tapering muscle which lies under the back-bone in the loin region is called the tenderloin, beef tender or fillet. When this muscle is re-

Figure 13.—Method of cutting the chuck into roasts or steaks.

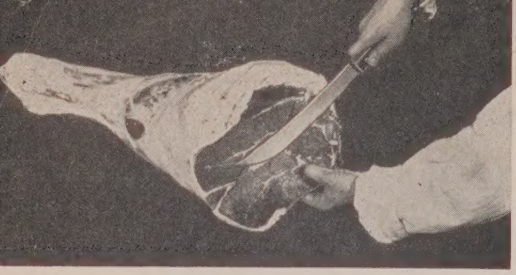

Figure 14.—Cutting round steaks.

Figure 15.—The round may be divided into (1) the top, (2) the sirloin tip, (3) the bottom, and (4) the eye.

moved from the short loin, it is called a short fillet or short tender. The remainder of the short loin is called a shell loin. "Shell steaks" are cut from this region. When the large muscle is removed from the short loin, it is called a "strip loin". "Strip steaks" are cut from this area.

The Rump

The rump is usually boned, rolled and tied and used as a pot roast. This cut is sometimes corned.

Round

The round can be used in several ways. Large steaks may be cut from the round. **(Figure 14).** For the average farm family a more satisfactory procedure is to bone out the separate large muscles and have smaller easily handled cuts. This can be done by following this procedure: Locate the stifle joint (patella or knee cap) and make a cut down over the center of the bone and separate the sirloin tip from the bottom round by following the separating membrane. Now remove the three-cornered pot roast found at the rear of the shank and stifle joint. This cut is also called the heel of the round, horseshoe pot roast, point boil and sirloin tip.

The large thick piece remaining is divided into the top, bottom and eye by separating along the connective membranes. The top round muscle is suitable for cutting into thin steaks or swiss steak. The eye and bottom round muscles are tougher than the top round muscle and are usually used for pot roasts, swiss steaks or cubed steaks. **(Figure 15).**

Bone out the remaining meat on the shank bone and use for grinding, stewing or soup stock.

CUTTING VEAL

Veal is handled and cut much the same as beef. The main difference is in the method of handling the leg (round) and in the names applied to the various cuts. In cutting the veal leg one does not follow the procedure followed with the beef round. The veal leg is either made into cutlets or into several roasts.

The names of the different cuts of beef and veal differ. The following are a few examples: round steak----veal cutlets: beef plate----veal breast, and porterhouse steak----veal loin chop.

Illustrations were made available through the courtesy of Morton Salt Company and Professor P. T. Ziegler, The Pennsylvania State College.